

Smart Glass EVA Lamination Guide

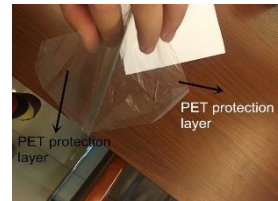
Pre-Process Step

- EVA should be stored and handle according to manufacturer instructions.
- Store in cool and dry place

Lamination Preparations

Production process need to be done in a dust free, clean room environment:

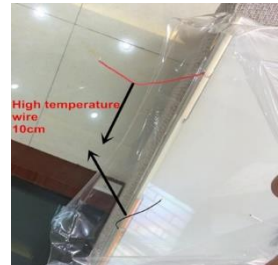
- Step 1: Clean the Glasses.
- Step 2: Cut and prepare the EVA interlayers (We recommend 0.76mm thick EVA).
- Step 3: Pill off both sides of protection layers.
- When pilling off the smart film please take special attention:
 - It should be in a clean room
 - Please use gloves
 - Please make sure that the smart film is in flat position
 - Pill off the protection layer smoothly



Smart Glass Stack up for Lamination

When building the structure of the layers for lamination, Glass + EVA + PDLC Film + EVA + Glass it is very important to take care of the following:

- When placing the smart film between two EVA interlayers and glasses please make sure that the glasses will not apply uneven pressure or squeeze the smart film.
- The EVA Size should be equal to Glass size.
- Smart Film size should be shorter than Glass while top and bottom edges should be 3-4mm shorter than glass size both sides should be 2mm shorter than Glass size.
- The pigtail guide wires from the busbar should be at least 10cm and must be high temperature resistant wires.
- Cut the extra EVA Film gently.
- Solid the pre-laminated glass with high-temperature green ribbon tape
- Seal all four sides of smart film with transparent high temperature tape and expose the busbar.

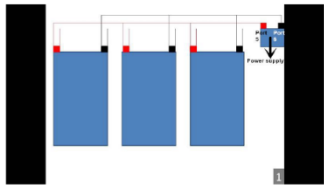


Recommendation

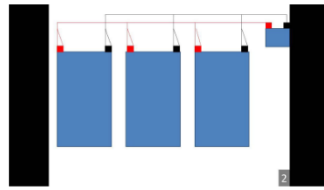
We recommend you to have two pigtail wires from each busbar, one serve as a reserve in case that one wire will be non-functional due to mishandling you still have the other one to connect the smart glass.



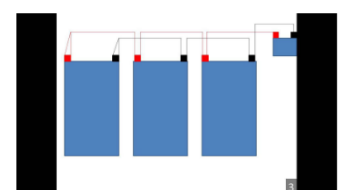
If you apply two wires from each busbar, all the below wiring options are acceptable:



Use one wire only



Connect two wires together



Connect two wires separately

Vacuum Bag Process

- Use one vacuum bag for each Smart Glass.
- The vacuum bag is not a replacement for edge sealing.
- Make sure that the silicone vacuuming bag is in high quality, it will prevent uneven heating inside the oven.



Smart Glass Lamination Process

Below you can find the Autoclave Lamination profile process. If you are using Oven, best if you consult your EVA supplier for the recommended lamination profile.

Process	Pressure (K pa)	Lamination Glasses 5+5mm / 6+6mm		
		Set Temp	Estimated heating time (min)	Heat Preservation time (min)
1 st Step	50-100	65	15	10
2 nd Step	150	100	25	10
3 rd Step	200	120	80	60 (1)
Estimated Time		200 minutes		

Notes

- (1) Time should be adjusted to 70 minutes if you laminate Smart Glass 8+8mm.
- (2) After step 3 is completed, you should wait for the autoclave temperature to reach 50°C (Normally it takes 1.5-2 hours), then you can open the autoclave.
- (3) Do not mix different glass thickness in the same lamination process.
- (4) Smart Film EVA lamination requires special expertise and equipment; therefore, we offer our customers to gradually make tests and evaluation.